

What is claimed is:

[Claim 1] 1. A graphics card for smoothing the playing of video comprising:
a video capture engine for receiving a digital video signal;
a memory connected to the video capture engine for storing the digital signal captured by the video capture engine;
a video display engine connected to the memory for receiving the digital signal stored in the memory; and
a first clock generator connected to the video capture engine and the video display engine for providing the same clock to the video capture engine and the video display engine so as to synchronize the signal receiving rates of the video capture engine and the video display engine.

[Claim 2] 2. The graphics card of claim 1 further comprising a decoder connected to the video capture engine for transforming a received analog video signal into the digital video signal and outputting the digital video signal to the video capture engine.

[Claim 3] 3. The graphics card of claim 2 wherein the first clock generator is located in the decoder.

[Claim 4] 4. The graphics card of claim 1 further comprising an encoder connected to the video display engine.

[Claim 5] 5. The graphics card of claim 4 wherein the first clock generator is further connected to the encoder for providing the same clock to the video capture engine, the video display engine, and the encoder.

[Claim 6] 6. The graphics card of claim 4 wherein the encoder is a TV encoder.

[Claim 7] 7. The graphics card of claim 1 further comprising an output interface connected to the video display engine for outputting the digital video signal from the video display engine.

[Claim 8] 8. The graphics card of claim 7 wherein the first clock generator is further connected to the output interface for providing the same clock to the video capture engine, the video display engine, and the output interface.

[Claim 9] 9. The graphics card of claim 7 wherein the output interface is a liquid crystal display (LCD) output interface, a cathode ray tube (CRT) output interface, or a plasma display panel (PDP) output interface.

[Claim 10] 10. The graphics card of claim 1 further comprising a video process engine connected to the memory for processing the digital video signal of the memory into digital video data and then storing the digital video data in the memory.

[Claim 11] 11. The graphics card of claim 10 further comprising a video process clock generator connected to the video process engine for providing a clock to the video process engine.

[Claim 12] 12. A graphics card for smoothing the playing of video comprising:

a video capture engine for receiving a digital video signal;

a memory connected to the video capture engine for storing the digital signal captured by the video capture engine;

a video display engine connected to the memory for receiving the digital signal stored in the memory;

a multiplexer having an output connected to the video display engine;
a first clock generator connected to the video capture engine and a first input of the multiplexer for providing a first clock to the video capture engine and the first input of the multiplexer; and
a second clock generator connected to the first clock generator and a second input of the multiplexer for receiving the first clock to generate a second clock, the second clock having substantially the same frequency as the first clock and being offset from the first clock by a predetermined phase difference.

[Claim 13] 13. The graphics card of claim 12 further comprising a decoder connected to the video capture engine for transforming a received analog video signal into the digital video signal and outputting the digital video signal to the video capture engine.

[Claim 14] 14. The graphics card of claim 13 wherein the first clock generator is located in the decoder.

[Claim 15] 15. The graphics card of claim 12 further comprising an encoder connected to the video display engine.

[Claim 16] 16. The graphics card of claim 15 wherein the output of the multiplexer is further connected to the encoder for providing the same clock to the video display engine and the encoder.

[Claim 17] 17. The graphics card of claim 15 wherein the encoder is a TV encoder.

[Claim 18] 18. The graphics card of claim 12 further comprising an output interface connected to the video display engine for outputting the digital video signal from the video display engine.

[Claim 19] 19. The graphics card of claim 18 wherein the output of the multiplexer is further connected to the output interface for providing the same clock to the video display engine and the output interface.

[Claim 20] 20. The graphics card of claim 18 wherein the output interface is a liquid crystal display (LCD) output interface, a cathode ray tube (CRT) output interface, or a plasma display panel (PDP) output interface.

[Claim 21] 21. The graphics card of claim 12 further comprising a video process engine connected to the memory for processing the digital video signal of the memory into a digital video data and then storing the digital video data in the memory.

[Claim 22] 22. The graphics card of claim 21 further comprising a video process clock generator connected to the video process engine for providing a clock to the video process engine.